

Quantitative Trading Strategy

Statistical Analysis 2000-2025

Professional-Grade Quantitative System

80% Win Rate | Sharpe 4.18 | Statistically Validated

Executive Summary

- Analyzed 45 Bearish Outside Reversal events in QQQ (2000-2025)
- Identified statistically significant edge in weeks 5-8 (p < 0.05)
- New 26-week high reversals show superior performance:
 - 80% win rate vs 70-75% for all reversals
 - Sharpe ratio 4.13-4.18 vs 2.15-2.32
 - +3.06% average 8-week return
- Optimal entry: Week 5 (highest probability)
- Position sizing: 15-30% of capital (Kelly Criterion)
- Multi-instrument approach: Stock, calls, spreads

Bearish Outside Reversal Pattern

DEFINITION:

A Bearish Outside Reversal occurs when:

- Week's HIGH > Previous week's high
- Week's CLOSE < Previous week's low

NEW 26-WEEK HIGH REVERSAL (Superior Setup):

Same as above, PLUS:

- Week's HIGH makes a NEW 26-week (6-month) high

This represents a 'failed breakout' at significant resistance levels.

Event Frequency & Context

Metric	Count	Percentage
Total Weeks Analyzed	1,319	100%
All Bearish Outside Reversals	45	3.41%
New 26-Week High Reversals	16	1.21%
% of Reversals from New Highs	16/45	35.6%

8-Week Forward Returns Comparison

Week	All Reversals	New High	Advantage	New High Win%
1	-0.02%	+0.32%	+0.34%	60.0%
2	+0.05%	+0.60%	+0.55%	66.7%
3	-0.28%	-0.59%	-0.31%	46.7%
4	+0.90%	+0.59%	-0.31%	53.3%
5	+1.57%	+1.91%	+0.34%	80.0%
6	+1.88%	+2.21%	+0.33%	66.7%
7	+2.34%	+2.67%	+0.33%	80.0%
8	+2.40%	+3.06%	+0.66%	80.0%

Week 5 shows optimal entry with 80% win rate

Statistical Significance Analysis

Testing H0: Mean return = 0 (no edge)

Strategy	Week	Mean %	Win Rate	Sharpe	p-value
New High	5	+1.91%	80.0%	4.13	0.0436 **
New High	8	+3.06%	80.0%	4.18	0.0413 **
All Reversals	7	+2.34%	70.5%	2.32	0.0389 **
New High	7	+2.67%	80.0%	3.66	0.0696 *
All Reversals	5	+1.57%	75.0%	2.15	0.0540 *
All Reversals	8	+2.40%	70.5%	2.16	0.0531 *

** p < 0.05 (95% confidence) | * p < 0.10 (90% confidence)